

**Notice of Allowability**

Application No.

10/691,500

Examiner

David Nhu

Applicant(s)

NOZAWA ET AL.

Art Unit

2818

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/7/06.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. PCT/JP02/11250
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

### **REASONS FOR ALLOWANCE**

1. Claims 1-12 are allowed.
2. The following is an examiner's statement of reasons for allowance: None of the references of record teaches or suggests as cited in claims 1: epitaxially growing a first semiconductor layer on a substrate for temperature estimation, the first semiconductor layer being made of a single crystal having an optical constant that is different from an optical constant of the substrate for temperature estimation, and then epitaxially growing a second semiconductor layer on the first semiconductor layer under a reaction control condition, the second semiconductor layer being made of a single crystal material having an optical constant that is substantially equal to the optical constant of the substrate for temperature estimation and different from the optical constant of the first semiconductor layer; calculating a rate growth of the second semiconductor layer based on the film thickness of the second semiconductor layer thus measured to derive a relationship between the rate of growth of the second semiconductor layer and the surface temperature on the second semiconductor layer; epitaxially growing a third semiconductor layer on a substrate for device fabrication made of a material identical to a material of the substrate for temperature estimation, the third semiconductor layer being made of a single crystal having an optical constant that is different from an optical constant of the substrate for device fabrication, and then epitaxially growing a fourth semiconductor layer on the third semiconductor layer under a reaction control condition, the fourth semiconductor layer being made of a single crystal material having an optical constant that is substantially equal to the optical constant of the substrate for device fabrication and different from the optical constant of the third semiconductor layer; calculating a rate of

growth of the fourth semiconductor layer based on the film thickness of the fourth semiconductor layer thus measured.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### CONCLUSION

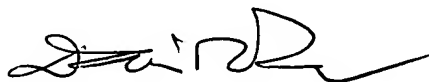
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Carlson et al (4,442,310): Photo-detector Having Enhanced Back Reflection.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Nhu, (703) 306- 5796. The examiner can normally be reached on Monday-Friday from 7:30 AM to 5:00 PM.

*The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.*

*Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.*

David Nhu



June 14, 2006

**DAVID NHU**  
**PRIMARY EXAMINER**